Please replace the first full paragraph on page 8 with the following:

C1

After all of the desired points have been generated from interpolating and extrapolating the calibration data, the resulting look-up table preferably contains one AGC integrator accumulator value data point for each amplitude and frequency value in the tuner's operating range. When a user wishes to measure the input RF power to the modem's receiver, the current AGC integrator accumulator value Ψ_{acc} is matched with the closest AGC integrator accumulator value Ψ_{acc} corresponding to the tuner's frequency from the look-up table and thereby used to obtain an estimate of the input power. Because the AGC integrator accumulator values in the look-up table are obtained via the modem's actual operating characteristics, the values in the look-up table will reflect and compensate for any variations in the particular device's characteristics, such as gain non-linearity, frequency ripple, or temperature effects, in the input power calculation.

Please replace the second full paragraph on page 9 with the following:

C2

As a result, the inventive method does not require any input power calculations to be conducted in the digital modem itself. Instead, the invention uses AGC accumulator register values in a digital demodulator to estimate input RF power using a simple algorithm and a look-up table, using external test equipment to generate the look-up table data stored in the modem. The data in the look-up table is preferably generated externally by interpolating and/or extrapolating points from sparse calibration data and stored in the modem using a compact format (e.g., 8-bit data). During operation, the modem simply references the data corresponding to the input frequency and to the closest AGC integrator accumulator value in the look-up table to obtain an associated input power value. Because the AGC integrator accumulator values

in the look-up table are interpolated from the actual, device-specific operating characteristics of the tuner in the cable modem device, the inventive method can compensate for gain non-linearity, frequency ripple and temperature effects often found in low-cost RF tuners by including data corresponding to these effects in the look-up table, without requiring an excessive number of calibration points to generate the look-up table data.

C2 Cont

Amendments to the Claims:

Please amend each of the following claims by replacing it with the version given here. A copy of each amended claim showing the changes made is provided in the Appendix.

C3

1. (twice amended) A method for estimating input power in a cable modem device having a tuner and a modem, the modem having a receiver including an automatic gain control (AGC) circuit with an integrator outputting an accumulated error value, the method comprising the steps of:

inputting a plurality of calibration signals having known frequencies and input power levels into the receiver;

recording calibration data corresponding to each of said plurality of signals, said calibration data including an associated frequency, input power level and accumulated error value for each of said calibration signals;

generating a look-up table comprising an interpolated accumulated error value for each of a desired set of estimated input power levels and input frequencies using said

calibration data; and

storing the look-up table in the modem.

2. (twice amended) The method of claim 1, further comprising obtaining an estimated input power using a current input frequency and an interpolated accumulated error value that is closest to a current accumulated error value as inputs to said look-up table.

5. (twice amended) The method of claim 1, wherein generating a look-up table comprises interpolating additional calibration data using calibration data taken from actual operation of said modem.

22. (twice amended) A cable modem device, comprising:

a tuner that tunes to an input signal;

a modem coupled to the tuner, the modem having a receiver with an automatic gain control (AGC) circuit and a memory; and

a look-up table stored in the memory, the look-up table comprising an interpolated accumulated error value for each of a desired set of estimated input power levels and input frequencies;

wherein said look-up table is used to compute an estimated input power to the receiver using a current input frequency and an interpolated accumulated error value that is closest to a current accumulated error value.